

From: Bowman, Randal
To: [Benjamin Simon](#); [Ann Miller](#)
Subject: Fwd: FW: DUE TO DOI BY 8/16: FS review of DOI Draft Econ Reports ready for submittal to DOI
Date: Wednesday, August 16, 2017 5:17:05 PM
Attachments: [20170814 FS Comments on Sand to Snow Review Draft.docx](#)
[20170814 FS Comments on Berryessa Snow Mountain Review Draft_gc.docx](#)

----- Forwarded message -----

From: **Eberlien, Jennifer - OSEC, Washington, DC** <Jennifer.Eberlien@osec.usda.gov>
Date: Wed, Aug 16, 2017 at 6:11 PM
Subject: FW: DUE TO DOI BY 8/16: FS review of DOI Draft Econ Reports ready for submittal to DOI
To: "Bowman, Randal" <randal_bowman@ios.doi.gov>
Cc: "Chambers, Lawrence F -FS" <lfchambers@fs.fed.us>, "Blum, Gordon E -FS" <gblum@fs.fed.us>

Randy – attached are the economic draft review comments.

Also Randy – I am transitioning out of my 90-day detail – today is my last day. Larry Chambers will be taking over tomorrow and next week with Gordie Blum coming for another 90-day assignment starting August 28. Please contact them for any future information or communication needs regarding DOI Monument Review.

It was a pleasure to work with you – best wishes!

Jen

Jennifer Eberlien

Forest Service Liaison

Natural Resources and Environment

Department of Agriculture

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(b) (6) (cell)

From: Snieckus, Mary -FS
Sent: Wednesday, August 16, 2017 5:28 PM
To: Eberlien, Jennifer - OSEC, Washington, DC <Jennifer.Eberlien@osec.usda.gov>
Cc: Coleman, Angela -FS <acoleman@fs.fed.us>; Casamassa, Glenn -FS <gcasamassa@fs.fed.us>
Subject: DUE TO DOI BY 8/16: FS review of DOI Draft Econ Reports ready for submittal to DOI

Jen, please find attached Forest Service comments on both the Sand to Snow Monument economic review draft and the Berryessa Snow Mountain Monument economic Review Draft.

They are due to DOI today, so would appreciate you forwarding them.

Thanks so much, Mary

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Sand to Snow National Monument

Economic Values and Economic Contributions

DRAFT



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Introduction

The purpose of this paper is to provide information on economic values and economic contributions of the activities and resources associated with Sand to Snow National Monument (STSNM) as well as to provide a economic profile of San Bernardino and Riverside Counties.¹

Background

STSNM was established in 2016 and encompasses 83,000 acres of Bureau of Land Management (BLM) 71,000 US Forest Service lands, to be managed jointly both agencies. The San Gorgonio Wilderness makes

up almost two-thirds of STSNM. Public lands in the Monument are withdrawn from mineral exploration under the General Mining Act of 1872, however valid existing rights are protected under the Monument proclamation. The western half of the Sand to Snow National Monument shares its southeastern boundary with the northern boundary of the Reservation of the Morongo Band of Mission Indians. The Federal agencies managing the monument work in concert with the Morongo Band of Mission Indians to conserve and protect cultural/heritage resources and provide resource management technical advice.

Neither ~~the~~ BLM nor the Forest Service has initiated public scoping for STSNM Management Plan. However, a series of public workshops were hosted by the San Bernardino National Forest and the BLM California Desert District in July of 2016. The workshops focused on gathering information about what workshop participants value most about STSNM and to identify the types of experiences participants want when visiting. The information gathered at the workshops will inform the development of the Monument Management Plan.

For the BLM portion of STSNM, the 1980 California Desert Conservation Area Plan (CDCA) and its various amendments will be followed in the interim.² For the portion of the monument that lies within the San Bernardino National Forest, the 2006 San Bernardino National Forest Land Management Plan will be followed in the interim.³

Sand to Snow National Monument

Location: Southern California

Managing agencies: BLM, USFS

Adjacent cities/counties/reservations:

San Bernardino and, Riverside Counties; cities of Palm Springs; Palm Desert; Cathedral City; Desert Hot Springs; La Quinta; Riverside; Los Angeles; and tribes including San Manuel Band of Mission Indians, Twenty-Nine Palms Band of Mission Indians, Soboba; Cahuilla; Morongo, Los Coyotes, La Jolla, Santa Ysabel, Pauma and Yuma, Pechanga, and Pala.

Resource Areas:

☒ Recreation ☐ Energy ☒ Minerals
☐ Grazing ☐ Timber ☒ Scientific Discovery ☒ Tribal Cultural

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¹ The BLM and USFS provided data related to public land resources used in this paper.

² California Desert Conservation Plan: https://eplanning.blm.gov/epl-front-office/projects/lup/66949/82080/96344/CDCA_Plan.pdf; Proposed California Desert Conservation Area Plan Amendment for the Coachella Valley and Final Environmental Impact Statement (for BLM National Monument Lands in the Whitewater, Desert Hot Springs, and Seven Palms Valley 24K quads, and parts of the Catclaw Flat, Morongo Valley, and Yucca Valley South 24K quads): <https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage¤tPageId=96939>; 2005 West Mojave Plan Amendment to the California Desert Conservation Plan: <https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=renderDefaultPlanOrProjectSite&projectId=72544&dctmId=0b0003e880e36812>; 2016 Desert Renewable Energy Conservation Final Plan and Proposed EIS: <http://www.drecp.org/finaldrecp/>.

³ Online at <https://go.usa.gov/xNpBU>

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Public outreach prior to designation

STSNM first appeared as a legislative proposal in 2009. After subsequent versions of the legislation sponsored by both parties failed to pass, Sen. Feinstein (D-CA) sent a letter to the President in August 2015 requesting designation of STSNM and two other national monuments under the Antiquities Act. Sen. Feinstein and other members of the California Congressional delegation hosted a listening session in October 2015, which was attended by Department of Interior and Agriculture officials. Tribal representatives from the Agua Caliente Band of Cahuilla Indians, the Cahuilla Band of Mission Indians, the Colorado River Indian Tribes, the Fort Mojave Indian Tribe, the Morongo Band of Mission Indians, the San Manuel Band of Mission Indians, the Death Valley Timbisha-Shoshone Tribe, and the Twenty-Nine Palms Band of Mission Indians attended the meeting to discuss tribal concerns and opportunities of the proposed monument designation. Members of the San Bernardino [County](#) Board of Supervisors also attended. The tribes expressed support for the proposed designation.

Local Economy and Economic Impacts

Table 1 presents socio-economic information on San Bernardino County and the state of California. The County contains approximately 5% of the State's population. About 2% of the population is American Indian. The population of the county has increased about 50% since 1990. The median household income in the county is about 86% of the state average. The unemployment rate in the county increased from about 5.6% in 2007 to 13.5% in 2010, and has since declined to about 4.5%.⁴

The largest sectors, as measured by employment, in San Bernardino County are health care and social assistance, manufacturing, and transportation and warehousing.⁵ Information is provided below on two different types of economic information: "economic contributions," and "economic values." Both types of information are informative in decision making.

Economic contributions track expenditures as they cycle through the local and regional economy, supporting employment and economic output. [Table 2](#) provides estimates of the economic contribution of activities associated with STSNM.

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Economic values, in contrast to economic contributions, represent the net value, above and beyond any expenditures, that individuals place on goods and services. The term "consumer surplus" is often used to characterize economic values. It is not appropriate to sum values for economic contributions and economic values because they represent different metrics. To the extent information is available some economic values are presented in [Table 3](#) along with information on the timing and drivers of future activity. For commodities bought and sold in markets (e.g., oil, gas, etc.), the economic values are closely related to the market prices of the commodities. For goods and services – such as recreation – typically not bought and sold in markets, the values are estimated based on surveys for estimating values individuals have beyond direct expenditures.

Activities and Resources Associated With Sand to Snow National Monument

Details on the activities occurring at STSNM are provided below.

Recreation: A wide variety of outdoor recreation activities are available to STSNM visitors including: horseback riding, backpacking, rockhounding/mineral collecting, viewing historic sites/areas, target shooting, photography, environmental/outdoor classroom education, wildflower viewing, hiking/biking/running/walking, off-highway vehicle use on designated routes, nature study, picnicking, hunting, Pacific Crest National Scenic Trail use, and wildlife viewing. The monument is open to hunting, which is regulated by the California Department of Fish and Wildlife.

⁴ USDA Economic Research Service County Typology Codes, <https://www.ers.usda.gov/data-products/county-typology-codes/>

⁵ U.S. Census Bureau County Business Patterns, 2015.

Some activities that are inconsistent with the Wilderness Act, such as bicycling and off-highway vehicle use, are not allowed within San Geronio Wilderness.

The Forest Service National Visitor Use Monitoring (NVUM) program measures visitor use at the level of the national forest once every 5 years. The monument is included within the San Bernardino National Forest. Visitation data for the San Bernardino National Forest was last obtained in fiscal year 2014. Data from the National Visitor Use Monitoring program was used to estimate visitation to the portion of the San Bernardino National Forest that lies within the area which was subsequently included in the monument designation. Based on the 2014 data, the Forest Service estimated 45,000 visits to this portion of the forest that was subsequently included within the monument. Beginning in 2019, the Forest Service will begin separately monitoring visitation to its portion of the monument.

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The BLM utilizes the Recreation Management Information System (RMIS) to report visitation. RMIS, implemented in 1984, is the agency's official system of record for recreation information relating to recreation visitation, permits, and partnerships. Visitation information is based on the best available collection tools and data. Providing definitive visitation information at each National Monument is difficult to quantify, given the numerous factors influencing visitation and collection of visitor information data. Federal land managers are continually improving the methodology and technological resources for visitation reporting. ~~No recreation visitation data is available for the portion of the Monument administered by the USDA FS.~~

BLM data indicate that STSNM visitation was increasing during the years prior to designation. Visitation information for two BLM visitor contact areas (Big Morongo Canyon and Whitewater Preserve) includes:

- Big Morongo had an estimated 66,675 visitors in 2016
 - Whitewater Preserve had an estimated 139 hunting visits in 2016, compared to 152 in 2015, and 36 in 2014.⁶
- Recreation activities from tourism tend to generate economic activity for an indefinite period of time, and when visitation increases over time (as at STSNM), economic contributions likewise increase. These contributions affect the regional and state economies. Visitor expenditures to Big Morongo Canyon and Whitewater Preserve supported an estimated 44 jobs, \$1.8 million in labor income, \$2.8 million in value added, and \$4.6 million in economic output in local gateway economies surrounding the Monument. The total consumer surplus associated with recreation at STSNM in 2016 was estimated to be \$3.6 million. This estimate is based on average consumer surplus values and participation counts for camping, big game hunting, other hunting, mountain biking, hiking, off highway vehicle, and general recreation.⁷

Visitation numbers collected by the Palm Springs South Coast and Barstow Field Offices have increased slightly since the designation of STSNM. It is unclear whether the change represents is attributable to the monument designation.⁸ If the monument had not been designated, visitor numbers may still have increased over time due to a growth in population centers near the Monument.

Energy:

- **Oil, natural gas, coal, and renewables.** There is no coal, oil and gas or renewable energy produced in STSNM. No authorized federal oil and gas leases are located within the boundary of STSNM. No authorized or pending Applications for Permit to Drill are associated with these leases. No renewable energy rights-of-way are present

⁶ Visitation information is not available for the Forest Service lands.

⁷ Recreation unit value is a survey-based value for general recreation for the Intermountain region from the USGS Benefit Transfer Toolkit <https://my.usgs.gov/benefit-transfer/>. Economic value is the net benefit to recreational users (total benefits minus total costs).

⁸ Anecdotal information from the BLM Palm Springs South Coast Field Office suggests that requests for overnight camping at the Whitewater Preserve area have increased by 12 % since designation and visitation to the Black Lava Buttes unit of the monument increased by 15% since designation.

within the boundary of STSNM. Lands within STSNM were closed to renewable energy rights-of-way through the Desert Renewable Energy Conservation Plan process.

- **Energy distribution/transmission.** Three small distribution lines are present within the boundaries of STSNM. No major transmission lines are within the boundaries. The Proclamation allows for upgrades and expansions of transmission and telecommunication infrastructure (as well as new infrastructure) within the Monument. To date, no new requests for energy transmission or energy generation projects have been proposed.
- **Non-fuel minerals.** One active locatable mining operation, California Blue Mine, Gemstone, is in STSNM. No production information is available. Prior to 2006, no mineral material production had occurred. Between 2006 and 2011 the California Blue mine produced aquamarine, gem beryl, topaz, microcline, and smoky quartz. In November 2011, excavations were closed and backfilled per BLM requirements, with potential future evaluation for underground development.⁹ As of May 24, 2017, three mines are active within STSNM. Nine mining claims associated with these three mines located within or adjacent to the Monument were filed prior to designation of the Monument. Each of these is a 20-acre placer claim. No production data is available for these mining claims. There are no mineral developments or processing facilities adjacent to or impacted by STSNM designation.
- **Timber.** There is no timber production in the Monument. Merchantable timber is found within the San Geronio Wilderness, however timber harvesting or tree removal is not allowed in wilderness areas under the Wilderness Act of 1964. Most of the BLM portion of STSNM lies in lower elevations that support woody vegetation, such as California juniper (*Juniperus californica*), that BLM considers could support artisanal woodcutting or firewood. Collection of forest products, as well as firewood for personal noncommercial use is allowed under the Proclamation outside of wilderness, however no information is available on quantities.
- **Grazing.** No BLM-permitted livestock grazing allotments currently exist within the Monument, although grazing is not necessarily precluded by the Proclamation.
- **Resource values:** Monument designation is intended to protect historic landmarks, historic and prehistoric structures, and other objects of historic and scientific interest. In general, these resources are valued by society, but those values are not bought or sold in the marketplace and therefore, difficult to quantify. Below is a brief overview of the natural, cultural, and scientific features identified in the Proclamation that the designation is intended to protect:
- **Cultural, archeological, and historic resources.**
 - **Tribal Cultural Resources:** Tribes use the lands within STSNM for ceremonies and visitation of sacred sites. Traditions of gathering medicinal and ceremonial plants, edible plants, herbs, and materials for crafting items such as footwear, are still practiced by tribal members. Prior to the designation of STSNM, BLM had, and still has, a gathering policy with tribes that ensures traditional practitioners maintain access to plants. Gathering permits are not required for Native Americans. BLM policy, then as now, also emphasizes local collaboration, implementation, and issue resolution.
 - **Cultural (Historic and Archaeological) and Paleontological Resources:** Dozens of recorded archaeological sites lie within STSNM. The majority of these sites are prehistoric (predating the 1800s). These prehistoric sites include pottery, stone tool (lithic) scatters, remains of cooking features (hearthths), rock shelters, prehistoric roads, and an estimated 1,700 petroglyphs and pictographs. In addition, the known historic resources include cattle ranching/grazing related items such as structures, foundations, infrastructure such as corrals, wells, check-dams, and fencing. Bonnie Bell, a known 1850s stagecoach stop, was located in Whitewater Canyon. Other historic resources include those related to mining, such as old cabins, mine shafts, prospecting pits, and refuse deposits. The BLM has not completely surveyed the Monument for cultural resources. To date 7.2% of STSNM has been surveyed for cultural resources.

⁹ Hunerlach, M.P. (2012): "California Blue Mine Yucca Valley, San Bernardino County, California A New Gem Pegmatite." *Rocks & Minerals* 87:6, 502-509. Online at <http://dx.doi.org/10.1080/00357529.2012.728923>

- Scientific Investigation and other resources: The Monument also includes geological features, oases, rare plants, dark night skies, and wildlife.

Land Management Tradeoffs

This section presents some information to help understand land management tradeoffs. The designation of the monument has closed lands to certain types of development, so within the context of the Monument Designation, some tradeoffs are not relevant.

Decision-making often involves multiple objectives and requires making tradeoffs among those objectives. In general, market supply and demand conditions drive energy and minerals activity; societal preferences and household disposable income affect recreation activity levels; and market prices and range conditions affect the demand for forage. Culturally important sites and unique natural resources, by definition, have limited or no substitutes. A particularly challenging component of any tradeoff analysis is estimating the nonmarket values associated with STSNM resources, particularly the nonmarket values associated with ecological, cultural, and scientific resources.

Planning for permitted resource use on National Monuments will involve trade-offs among different activities on the land area being managed in order to allow permitted activities that are compatible with protection of the monument objects. Once designated, National Monuments continue to be managed under the multiple use mandate outlined in Federal Land Management and Policy Act of 1976. In some cases, certain areas of the Monument may be appropriate for more than one use. After the careful consideration of tradeoffs, management decisions in those cases may prioritize certain uses over others. In other cases, land areas may be more appropriate for a particular use and activities could be restricted to certain areas of the Monument. These decisions are based upon whether a use is compatible with the designation. Factors that could inform these tradeoffs include demand for the good or activity, prices, costs, and societal preferences. Other considerations might include the timeframe of the activity - how long the benefits and costs of a given activity would be expected to extend into the future. Trust responsibilities and treaty rights should also be considerations. The BLM [and USFS](#) ultimately makes decisions about how to manage National Monuments through the land use planning process, considering public input to weigh the various proposed uses of the land alongside the protection of the objects described in the Proclamation.

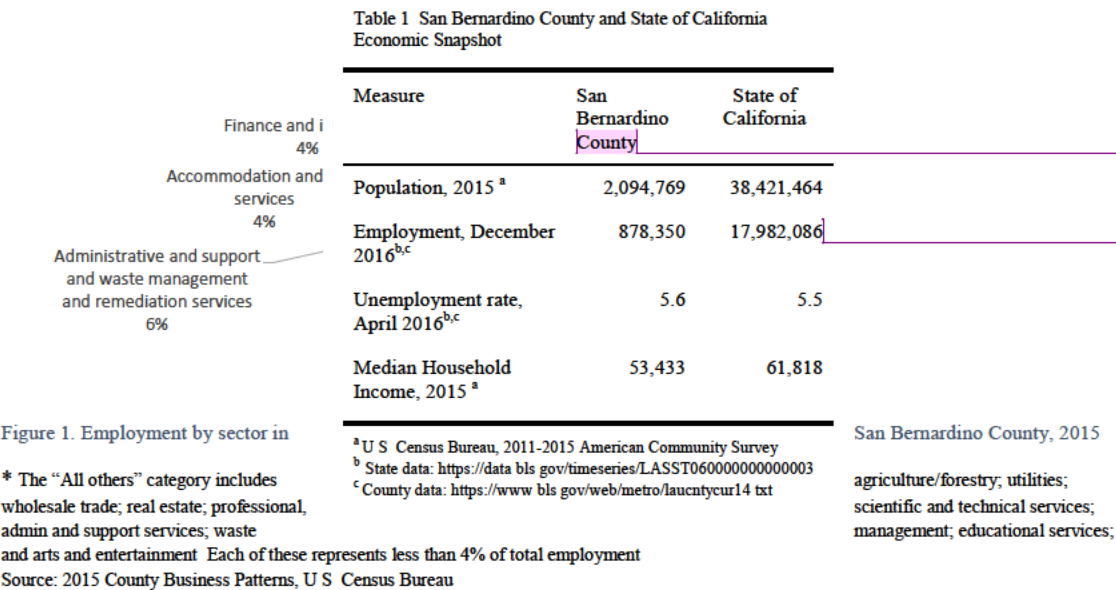
In considering any trade-offs, it is not just the level and net economic value associated with an activity that occurs in a given year that is relevant to decision making. Virtually all activities within the Monument occur over time and it is the stream of costs and benefits over a given period of time associated with each activity that is relevant. For example recreation activities could continue indefinitely, assuming the resources required for recreation remain intact and are of sufficient quality for individuals to remain interested in participating. Likewise, the values associated with the natural and cultural resources could continue indefinitely provided they are not degraded by environmental factors or other activities (and assuming preferences do not change). The stream of costs and benefits associated with some other non-renewable resources would be finite, however (assuming these activities were consistent with the designation). For example, oil, gas, coal and minerals are all non-renewable resources and would only be extracted as long as the resource is economically feasible to produce.

The STSNM Proclamation contains specific provisions for the protection of heritage objects and values extending beyond specific resources concerns. This emphasis on protection rather than mitigation, is a critical distinction in the preservation of significant historic objects within STSNM. The STSNM proclamation states that STSNM contains “exceptional objects of scientific and historic interest” and that the purpose of this designation, and the provisions it contains, is the “protection of these objects”. This protection is largely derived through the extra regulatory proclamation provisions for limitations on uses which are known to impact heritage objects and values, and requirements that the BLM implement the purposes of the proclamation to protect these resources.

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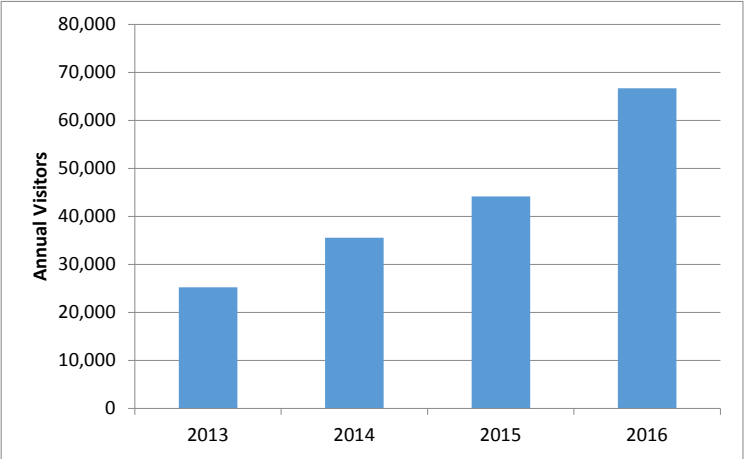
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Figure 2. Annual Visitation at STSNM (does not include Forest Service areas). Source: BLM





Berryessa Snow Mountain National Monument

Economic Values and Economic Contributions

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Introduction

The purpose of this paper is to provide information on the economic values and economic contributions of the activities and resources associated with Berryessa Snow Mountain National Monument (BSMNM) as well as to provide a brief economic profile of Lake County.^{1, 2}

Background

BSMNM was established in July 2015. Proclamation 9298 of July 10, 2015 designated “approximately 330,780 acres” and states that acreage is “the smallest area compatible with the proper care and management of the objects to be protected.” The BSMNM includes both BLM (40%) and USFS (60%) lands. The area includes the Snow Mountain, Cache Creek and the Cedar Roughs Wilderness areas, and part of the Mendocino National Forest.

Berryessa Snow Mountain National Monument

Location: Northern California

Managing agencies: BLM, USFS

Adjacent cities/counties/reservations:

- Counties: Lake County, CA (about 2/3 of BSMNM acreage). Also Colusa, Glenn, Mendocino, Napa, Solano, and Yolo.
- Tribes: Elem Indian Colony, Yocha Dehe Wintun Nation, Middletown Rancheria, Big Valley Rancheria, Colusa Indian Community, Cortina Indian Rancheria, Grindstone Indian Rancheria, Potter Valley Rancheria, Robinson Rancheria of Pomo Indians, Round Valley Indian Reservation, Scotts Valley Indian Reservation, Sherwood Valley Rancheria, Upper Lake Rancheria, Koi Nation – Lower Lake Rancheria.
- Nearby Cities: Clearlake, Ukiah, Santa Rosa, Woodland, even Sacramento and the upper San Francisco bay area (other towns within a short commute include Upper Lake, Lower Lake, Ukiah, Woodland, Davis, Santa Rosa, Nice, Lucerne, Winters, Guinda, Esparto, Clearlake Oaks, Redwood Valley, Calpella, Hopland, Kelseyville, Middletown, and Calistoga).

Resource Areas:

- ☒ Recreation ☐ Energy ☒ Minerals
☒ Grazing ☐ Timber ☒ Scientific Discovery ☒ Tribal Cultural

The Federal Land Policy and Management Act (FLPMA) directs BLM and USFS to continue to allow for multiple uses on National Monuments. The Mendocino National Forest and BLM Ukiah Field Office manages for multiple use within the Monument including wildlife management, hunting and fishing, recreation, grazing, and valid pre-existing rights such as mining, etc., while protecting and providing the vast array of historic and scientific resources identified in the Proclamation and providing opportunities for scientific study and public enjoyment of the historic and scientific resources identified in the Proclamation. The objects of interest resources identified in the Proclamation include unique geology, watersheds, the Bartlett Springs fault zone, serpentine soils that host a vast array of many unique botanical resources, some of the earliest prehistoric settlements in California, and traditional gathering sites for Native American cultures, Cache Creek Archeological District, the historic 1860's Nye Cabin, headwaters and waterways that harbor native fish, as well as wildlife habitat and migration

¹ The BLM and USFS provided data related to public land resources used in this paper.

² Lake Co. has about 2/3 of total acreage. Source: Larson, E. (2017) Lake County News. Posted June 9, 2017. Accessed July 19, 2017. <https://www.lakeconews.com/index.php/news/142-local-government/51195-support-gathers-for-maintaining-berryessa-snow-mountain-national-monument-status->

corridors. Overall, multiple-use activities are allowed within BSMNM that are compatible with the protection of resources and objects identified in the Presidential Proclamation. Multiple-use activities are ~~subject to~~guided by decisions made in ~~current-existing~~ and future USFS and BLM resource management planning efforts. The 1995 Mendocino National Forest Land and Resource Management Plan and the 2006 BLM – Ukiah Field Office’s Resource Management Plan currently direct BSMNM management.

The BLM and USFS ~~have begun a public~~are in the process to of jointly developing a National Monument management plan in accordance with the Proclamation. ~~The 1995 Mendocino National Forest Land and Resource Management Plan will be followed in the interim. National Monuments and other conservation areas managed by the BLM continue to allow for multiple uses according to the Federal Land Policy and Management Act (FLPMA) and the resources, objects and values identified in the Proclamation or enabling legislation.~~³ Pending the outcome of this review, the agencies plan to begin the public scoping process in 2017. The USFS and BLM hosted three public meetings in the fall of 2016 to get early community input into the planning process. The plan will be developed in consultation with tribal, state, and local governments.

The establishment of BSMNM received support at the State, local and regional level. Counties and cities in the region passed resolutions of support. The community was engaged in the legislative proposals for the area and the eventual designation as a National Monument. ~~BLM records reflecting the pre-designation community engagement efforts are limited because most of the sponsorship for this designation came from active non-profit organizations. This monument offers an example of landscape-level cooperative management by multiple federal agencies through use of a Service First Agreement. The lands in and around BSMNM include a patchwork of state, county, local, and private ownership. Establishment of BSMNM provides a framework for cooperative coordination, grant writing, and cost sharing opportunities with federal, state, county, local, private and not-for-profit entities.~~

~~BSMNM is in the process of developing a new plan for cooperative management by BLM and USFS. Pending the outcome of this review, the agencies plan to begin the public scoping process in 2017. The BLM and USFS have already hosted three public meetings in the fall of 2016 to get early input into the planning process. The plan will be developed in consultation with tribal, state, and local governments.~~

Public outreach prior to designation

The establishment of BSMNM was the result of a grassroots effort of regional and community support for interagency protection and enjoyment of these lands. The not-for-profit organization Tuleyome

³ ~~Prior to national monument designation, the following bills were introduced in the House and Senate. Neither bill made it out of committee: H.R.761 – Berryessa Snow Mountain National Monument Act, sponsored by Representative Mike Thompson during the 114th Congress (2015-2016) (<https://www.congress.gov/bills/114/house-bills/761>); S.393 – Berryessa Snow Mountain National Monument Act, sponsored by Senator Barbara Boxer during the 114th Congress (2015-2016) (<https://www.congress.gov/bills/114/senate-bills/393>).~~

⁴ ~~Prior to national monument designation, the following bills were introduced in the House and Senate. Neither bill made it out of committee: H.R.761 – Berryessa Snow Mountain National Monument Act, sponsored by Representative Mike Thompson during the 114th Congress (2015-2016) (<https://www.congress.gov/bills/114/house-bills/761>); S.393 – Berryessa Snow Mountain National Monument Act, sponsored by Senator Barbara Boxer during the 114th Congress (2015-2016) (<https://www.congress.gov/bills/114/senate-bills/393>).~~

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(www.tuleyome.org) with offices based out of Woodland, CA, led this effort with a website, community, and regional outreach efforts. More than 200 local businesses voiced support for monument designation.

The Forest Service held two tribal meetings in 2014. Former Secretary of the Interior Sally Jewell participated in a public meeting with Congressmen Mike Thompson and John Garamendi on December 19, 2014 to hear from local communities. ~~The establishment of Berryessa Snow Mountain National Monument was the result of a grassroots effort of regional and community support for interagency protection and enjoyment of these lands~~

Local Economy and Economic Impacts

Table 1 presents socio-economic metrics for Lake Counties and the state of California. ~~The Lake~~ County contains roughly 0.2% of the State's population. The population of the county increased about 10% from 2000 to 2015.⁵ 3.2% of the population of the county is Native American. The median household income of Native Americans in Lake County is 92% of the median household income for the county's general population (see Table 1). The county has historically experienced higher levels of unemployment and lower levels of median household income in comparison to the State.

The economy in Lake County has firms in twenty sectors. Health care and social assistance is the largest sector by employment (see Figure 1), accounting for about 25% of total employment in the county.⁶

Activities and Resources Associated With BSMNM

Information on the economic contributions associated with the activities occurring at Berryessa Snow Mountain National Monument, as well as resources within the Monument, are provided below. Table 2 provides estimates of the economic contributions of activities associated with BSMNM. Additional information on the difference between economic contribution and economic value is provided in the Background and Overview materials.

- **Recreation:** Recreation opportunities at BSMNM include hiking, camping, backpacking, hunting, fishing, mountain biking, and horseback riding. ~~A number of trailheads provide access to the interior of the monument for hikers and equestrians.~~ Horseback endurance rides are popular annual events within the monument. The Mendocino National Forest and BLM host world-class off-highway vehicle trail systems, parts of which are in the Monument. The Monument also offers opportunities for kayaking in what is the closest whitewater river available to Sacramento and the San Francisco Bay area, as well as hot springs, swimming holes, and hang gliding launch points.

~~The BLM portion of the Monument in particular supports several trailheads popular among hikers and equestrians as well as access to Cache Creek. Recreation activities provide the opportunity are the basis for economic activity to be generated from tourism for an indefinite period of time.~~ The economic contributions occur annually, and in cases where visitation increases over time, recreation generates additional activity each year. These contributions affect the regional and state economies. Recreation activities based on visitation to BLM-managed land

⁵ Population (2000) 58,309; (2015) 64,158

⁶ U.S. Census Bureau County Business Patterns, 2015.

are estimated to contribute about \$5.8 million in value added (net economic contributions) and support around 95 jobs.^{7,8} The value of recreation opportunities and experiences is different from the economic activity supported by visitors to the Monument. Recreationists place a value on characteristics of a site, including non-marketed ones (e.g., dark skies, quiet, scenic views), over and above their expenditures to visit the site (this is referred to as consumer surplus). Using an average consumer surplus unit value of \$44.95 per person per day, the estimated economic value (net benefits) generated in 2016 was \$4.8 million.⁹

The portion of the monument administered by the Forest Service is located within the Mendocino National Forest (MNF). The most recent visitation estimate for the USFS-managed portion of the Monument (28,000 visits for the whole National Forest) is from fiscal year 2013, with an annual visit estimate of 28,000 which is considered to be a reasonable estimate for current visitation, given anecdotal information predates designation of the monument in 2015.¹⁰ Data collected during the 2018 sampling period will allow USFS to estimate the number of visits specifically to the monument area of BSMNM. The ranger office has Local Forest Service offices have reported no increase in calls or visits, suggesting that there may have been no increase in little change in visitation since Monument designation. Access to the Monument is challenging, requiring travel times of up to three hours over primarily dirt roads. Road damage from winter storms has restricted access to interior portions of the monument.

In 2015 and 2016, after the designation of BSMNM, three major wildfires, were followed by heavy rains and landslides, occurred on BLM-managed land after the designation of BSMNM. The Wragg Fire, Rocky Fire, Jerusalem Fire each impacted the recreational use areas, closing trails access for major portions of the season. The Rocky Fire impacted much of the Cache Creek Wilderness, a popular wilderness area among hikers and equestrian users. The Jerusalem Fire impacted uses in the Knoxville OHV area, and the Wragg Fire impacted hiking trails at Cold Canyon, within a preserve that is located just south of BSMNM. These wildland fire emergencies likely reduced annual visitation numbers at BSMNM.

- Energy. There are ten existing power transmission lines that intersect the BSMNM constructed from 1968-2000, all on BLM lands. There are no oil wells, no gas wells, no coal developments, and no commercial renewable energy operations in BSMNM. There is no Nor is there any energy production within BSMNM. There is a Known Geothermal Resource Area on the Mendocino National Forest's portion of the monument. However, there has been no development and no interest in development since the 1980s. There are ten existing power transmission lines that

⁷ The BLM utilizes the Recreation Management Information System (RMIS) to report visitation. RMIS, implemented in 1984, is the agency's official system of record for recreation information relating to recreation visitation, permits, and partnerships. Visitation information is based on the best available collection tools and data. Providing definitive visitation information at each National Monument is difficult to quantify, given the numerous factors influencing visitation and collection of visitor information data. Federal land managers are continually improving the methodology and technological resources for visitation reporting.

⁸ Draft Regional Economic Contributions of National Monuments and National Conservation Areas, BLM, 2016.

⁹ The consumer surplus unit value is a survey-based value for general recreation in the Pacific Coast region from the USGS Benefit Transfer toolkit (<https://my.usgs.gov/benefit-transfer>). This unit value was applied to FY 2016 visitation estimates to derive an estimate of economic value. Economic value is the net benefit to recreational users (total benefits minus total costs).

¹⁰ The Forest Service develops visitation estimates for each national forest once every 5 years through its National Visitor Use Monitoring (NVUM) program.

intersect the BSMNM constructed from 1968-2000, all on BLM lands. No applications for new power transmission infrastructure have been submitted within the BSMNM boundaries. In general, the scope, magnitude, and timing of energy and minerals activities are closely related to supply and demand conditions in world markets and the market prices of mineral commodities. Local or regional cost considerations related to infrastructure, transportation, etc. also may play a role in defining the supply conditions.

- **Non-fuel minerals.** There are seven locatable mineral mining claims (six mill sites and one lode claim) located within BSMNM. ~~They are~~ all owned by Homestake Mining Company, and located on BLM-managed portions of the Monument. ~~None of these claims is commercially active. There are no active mining claims, or other mineral developments, on Forest Service lands within the monument.~~ There are no mineral developments or process facilities adjacent to, or that have been impacted by the BSMNM designation.
- **Timber.** There is no active commercial timber program within the BLM-Ukiah Field Office. Approximately 20,000 acres of commercial timberlands on the Mendocino National Forest are located within the monument. No commercial timber projects were planned for the area at the time of monument designation, and no timber has been removed from these lands since the date of monument designation. In the five years prior to designation, 4,000 CCF were produced. No timber has been produced in the Mendocino National Forest since the date of monument designation; no commercial timber projects were planned for this area. In the five years prior to designation 4,000 CCF were produced.
- **Grazing.** The Monument proclamation allows for the continuation of all pre-designation grazing activities, including maintenance of stock watering facilities. There are five allotments wholly contained within the BLM-managed portion of BSMNM. These allotments include 552 permitted Animal Unit Months (AUMs). Of the 552 permitted AUMs, 342 contained within two separate allotments have not been utilized since monument designation due to catastrophic wildfire and drought. For 2016, there were only 126 billed AUMs (see *Figure 3*). Prior to this, there was an average of 519 billed AUMs per year since 2010. One allotment totaling 84 AUMs has not been utilized since 2005. The Forest Service, has the three allotments located within the monument, which have billed a total of 2,314 Animal Unit Months (AUMs) in 2016 and 2017. In 2016, the Forest Service grazing fee was \$1.35 per AUM and in 2017, the Forest Service grazing fee was \$1.87 per AUM.
- **Rights of Way.** There are few lands and realty actions that have been implemented or proposed within the BSMNM boundaries. According to the LR2000 Database System, during the period from 1968-2012, only 26 road right of ways, five road/federal highway actions, nine communication sites, and eight water/irrigation right of ways were processed. Currently, only one road safety amendment with the California Department of Transportation is currently being processed and one communications site transfer is being processed within BSMNM.
- **Resource Values:** Monument designation is intended to protect historic landmarks, historic and prehistoric structures, and other objects of historic and scientific interest. In general, While these

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resources are valued by society, ~~but~~ those values are not bought or sold in the marketplace and ~~are~~, therefore, difficult to quantify. Below is a brief overview of the natural, cultural, and scientific features identified in the Proclamation that the designation is intended to protect:

- **Tribal Cultural Resources:** Indigenous communities may utilize natural resources to an extent and in ways that are different from the general population, and the role that natural resources play in the culture of these indigenous communities may differ from that of the general population. Culturally important sites and unique natural resources, by definition, have limited or no substitutes. Recognizing this is a critical consideration in land management because it may affect consideration of tradeoffs. Activities currently undertaken by tribal members include hunting, fishing, gathering, wood cutting, utilization of traditional cultural places, and the collection of medicinal and ceremonial plants, edible herbs, and materials for crafting items like baskets and footwear.
- **Cultural (Historic and Archaeological) and Paleontological Resources:** A variety of historic and pre-historic sites have been identified within the BSMNM—~~There are~~ 568 ~~recorded~~ historic and pre-historic sites; ~~426 sites on USFS land, and 142 sites on BLM public lands.~~ The total extent of sites is most likely ~~much~~ larger, ~~with as~~ only 17.5% ~~of BSMNM (10% of BLM 40% lands and 25% of USFS 25% lands)~~ ~~having have~~ been surveyed. ~~New sites are added to the inventory nearly every year. Five new sites were documented by the University of California, Davis in 2015.~~ Multiple examples of seasonal camps, permanent villages, quarries, tool and food processing sites, and ceremonial sites, as well as historic sites with remnants of old sawmills, railroads, homesteaders' cabins, and hot spring or mineral spring resorts ~~are found throughout the monument.~~ Through tribal consultation, the BLM has learned that areas such as Knoxville's Cement Creek contain unidentified paleo-Indian sites, as does the Cache Creek Natural Area. Identified prehistoric sites include lithic scatters, sites with house-pits and dance-house depressions, chert, magnesite, and basalt quarries. Historic-era sites consist of numerous homesteads, mercury mining operations, cinnabar prospects, and stone livestock corrals. The Cache Creek Archaeological District (Solari 1997) – listed on the National Register of Historic (NRHP) – contains paleo-Indian and ethnographic sites of the Pomo and Patwin. These sites ~~provide evidence for~~ ~~represent both~~ some of the earliest known sites in California (and beyond), as well as ~~evidence examples~~ of contact and enculturation when Euro-American cultures moved into the region. The Monument ~~(USFS & BLM portions)~~ includes seven distinct Native cultures. Prehistoric trade routes and the artifacts that moved over these trails help tie the cultures together. Significant nearby heritage resources are protected through prior inclusion in the adjacent Yuki Wilderness.
- **Other Natural Resources – Geological and Hydrological:** ~~Other~~ objects protected by the Proclamation include geological, ecological, and hydrological resources, and ~~soils.~~ ~~Caves in the monument provide shelter and habitat for a range of plants, lichens and animals. Most importantly, they provide roosts for bats. Bats provide important ecological services including predation of night-flying insects that may be agricultural pests. Visitation to experience and learn about the area's scenic geology is likely to increase as awareness builds.~~

The monument has a variety of soils that provide a mosaic of habitat for plants and animals. The Monument's serpentinite and related rocks develop into nutrient-poor serpentinite soils. These soils are habitat for rare and ecologically important plants. Safeguarding these soils and plant communities prevent formation of erosive barrens with little ecological value. In addition, the monument's nutrient rich non-serpentine soils – mostly developed from siltstones -- are critical for timber growth and forage. The Forest Service portion of the monument supports economically viable forest products, while both BLM and FS provide grazing.

Water resources on the monument are essential for supporting the unique natural and cultural resources found there. Beyond that, surface waters, including Cache Creek in particular, provide important off-site benefits to local communities and the State of California's agricultural economy. Aquifers underlying the monument help maintain groundwater supplies in the Central Valley, further benefitting ranchers, farmers, and municipal domestic water supplies. BSMNM protects the intact ecosystems and geologic strata that are necessary to safeguard water quality and quantity for future generations.

- **Natural Resources – Biological:** Rich, diverse assemblage of habitats, plants, and animals run the spectrum from the common but beloved State Flower, California poppy, to extremely rare wildflowers that exist only on soils derived from serpentinite, California's State Rock. These iconic natural resources draw tourists from around the world. Native and introduced fish and wildlife attract thousands of hunters and anglers each year. Grasslands, oak woodlands and mixed conifer-woodland forests have vast carbon-storing capabilities and stabilize watersheds, thereby protecting both water quality and quantity.

- **Social Resources:** The extent and diversity of the BSMNM landscape provides ~~other~~ public values such as dark night skies and solitude. The Monument also provides ~~opportunities for outdoor~~ educational education opportunities for local colleges and universities (UC Davis, Chico State, Sonoma State, Mendocino Community College, etc.), as well as opportunities for the job training for youth in rural communities through wildland fire rehabilitation efforts of the Northern California Indian Development Council and staffing provided by Mobilize Green and the California Conservation Corps. These types of resource-sharing partnerships provide benefits to schools, students, local communities, and the agencies managing the monument, along with long-term social and economic benefits to society.

Renewal of the human spirit is impossible to couch in economic returns. Additional public values provided by the Monument include enjoying resources such as dark night skies, natural quiet, solitude, and nature-viewing..

Land Management Tradeoffs and Considerations

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DRAFT – August 7, 2017 – *Figures, values, and text are subject to revision*

Table 1. Lake County and State of California Economic Snapshot

Measure	Lake County	State of California
Population, 2015 ^a	64,158	38,421,464
Native American % of population, 2010 ^d	3.2	1.0
Employment, December 2016 ^{b,c}	27,247	17,982,086
Unemployment rate, April 2016 ^{b,c}	6.7	5.5
Median Household Income, 2015 ^a	35,578	61,818
Native American Median Household Income, 2015 ^e	32,750	45,490

^a U S Census Bureau, 2011-2015 American Community Survey

^b State data: <https://data.bls.gov/timeseries/LASST060000000000003>

^c County data: <https://www.bls.gov/web/metro/laucntycur14.txt>

^d U S Census Bureau, American Fact Finder

<https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF>

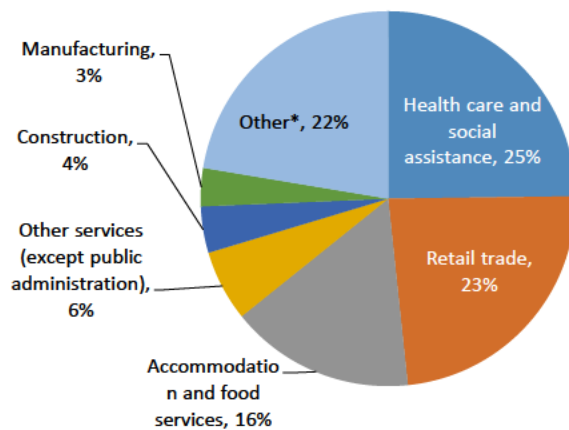
^e 2011-2015 American Community Survey (B19013)

Table 2. BSMNM Estimated Economic Contributions, 2016

Activities	Economic output (\$millions)	Value added (net additions to GDP), \$ millions	Employment supported (number of jobs)
Recreation	\$9.6	\$5.8	95
Grazing	\$0.09	Grazing value-added is not available	1

Source: DOI calculations

Figure 1. Percent of employment by sector in Lake County, 2015



* Other includes Administrative and support and waste management and remediation services; Agriculture, forestry, fishing and hunting; Arts, entertainment, and recreation; Educational services; Finance and insurance; Industries not classified; Information; Management of companies and enterprises; Mining, quarrying, and oil and gas extraction; Professional, scientific, and technical services; Real estate and rental and leasing; Transportation and warehousing; Utilities; and Wholesale trade. Each of these represents less than 3% of total employment. While this data source covers most NAICS industries, it excludes crop and animal production; rail transportation; National Postal Service; pension, health, welfare, and vacation funds; trusts, estates, and agency accounts; private households; and public administration. Most establishments reporting government employees are also excluded.

Source: 2015 County Business Patterns, U.S. Census Bureau

Figure 2. Recreation Visits to BSMNM, 2010-2016

